

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 June 2005 (09.06.2005)

PCT

(10) International Publication Number
WO 2005/052196 A3

(51) International Patent Classification⁷: C21C 5/52, 5/56

(21) International Application Number:
PCT/IB2004/003873

(22) International Filing Date:
25 November 2004 (25.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
UD2003A000231
27 November 2003 (27.11.2003) IT

(71) Applicant (for all designated States except US): DANIELI
& C. OFFICINE MECCANICHE SPA [IT/IT]; Via
Nazionale, I-33042 BUTTRIO (IT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): SELLAN, Romano
[IT/IT]; Via Belpoggio, 25, I-34123 TRIESTE (IT).

(74) Agents: PETRAZ, Gilberto et al.; GLP Srl, Piazzale
Cavedalis, 6/2, I-33100 Udine (IT).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

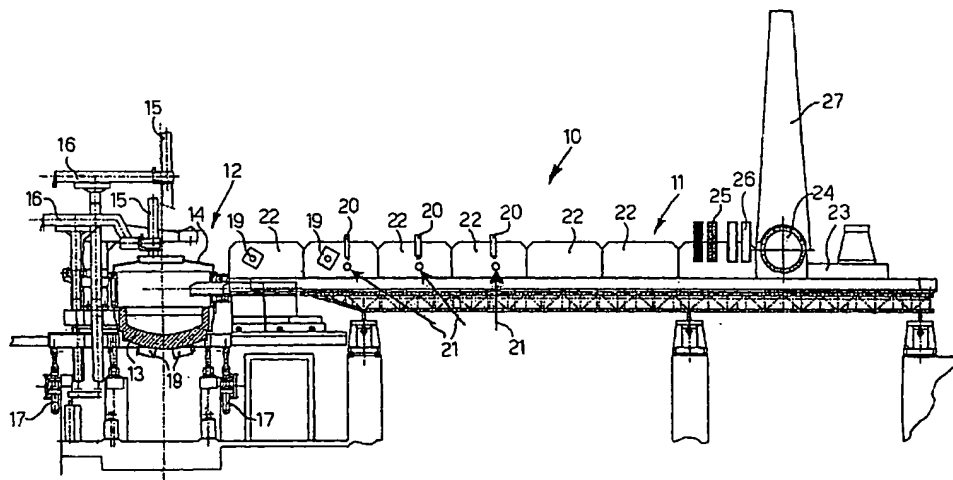
Published:

— with international search report

(88) Date of publication of the international search report:
16 March 2006

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR PRE-HEATING, TRANSFORMING AND MELTING A METAL CHARGE AND RELATIVE PLANT



(57) Abstract: Method and plant for pre-heating, transforming and melting a metal charge comprising metal scrap, in an electric arc furnace (12) associated with a tunnel (11) to transport, pre-heat and discharge the scrap. The furnace (12) comprises a hearth (13) and a roof (14) through which the electrodes (15) pass. The method provides that the furnace (12) is weighed at least periodically in order to detect the quantity of discharged scrap present inside the furnace (12) itself, that the temperature of the liquid bath inside the furnace (12) is detected at least periodically and that at least the discharge delivery of the scrap inside the furnace (12) is detected by weighing and is regulated in order to maintain the temperature of the liquid bath around a pre-determined value.